Title: Characterizing the true background corona with SDO/AIA

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Characterizing the nature of the solar coronal background would enable scientists to more accurately determine plasma parameters, and may lead to a better understanding of the coronal heating problem. Because scientists study the 3D structure of the Sun in 2D, any line of sight includes both foreground and background material, and thus, the issue of background subtraction arises. By investigating the intensity values in and around an active region, using multiple wavelengths collected from the Atmospheric Imaging Assembly (AIA) on the Solar Dynamics Observatory (SDO) over an eight-hour period, this project aims to characterize the background as smooth or structured. Different methods were employed to measure the true coronal background and create minimum intensity images. These were then investigated for the presence of structure. The background images created were found to contain long-lived structures, including coronal loops, that were still present in all of the wavelengths, 193 Å,171 Å,131 Å, and 211 Å. The intensity profiles across the active region indicate that the background is much more structured than previously thought.